



Blended learning after the COVID-19 pandemic: Undergraduate students' perspectives on the application of blended learning in higher education

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ABSTRACT

United Arab Emirates (UAE) has adopted blended learning (BL) as part of its commitment to incorporating technology and learning approaches. At Ajman University in UAE, this study explores students' perspectives on BL's application after the COVID-19 pandemic. A 20-item survey was used, and a descriptive research study was conducted to collect data. We administered the questionnaire to 1,400 undergraduates after validating its validity. With a 3.53% arithmetic mean and 0.957 standard deviations, the study found that undergraduate students expressed a high level of acceptance for BL after COVID-19 spread. In addition, this study found that students' perceptions differ according to gender (males are the most positive for BL), according to the students in the college (medical students are more positive), and finally, according to their years of study (sixth-year students are the most positive). The study recommended that higher education should continue to study BL.

Keywords: blended learning, students' perspectives, COVID-19 pandemic, higher education

INTRODUCTION

With the rapid advancement of technology over the last several decades, many aspects of our lives have changed, and an increased dependency on technology has been witnessed. However, the COVID-19 outbreak has also accelerated the efforts and plans of some sectors towards adopting digital technologies. Such an unprecedented shift was not an option for some sectors, as keeping the wheel turning was their main aim. One of those was the education sector, where finding ways to ensure the continuity of the learning process without interruption was the ultimate objective. Therefore, blended learning (BL), also known as hybrid learning, has emerged. Although it is not a novel concept, it was uncommon, and most of the decision-makers in educational institutions worldwide did not back such a way of teaching (Alsalihi et al., 2021). Owston et al.

(2013) pointed out that the term BL refers to the method of mixing and combining traditional learning activities by attending face-to-face lectures with online learning activities to attain enhanced and personalized student experience and outcomes in addition to improving the efficiency of the teaching practices (AlAmri et al., 2021). Furthermore, BL emphasizes student-centered rather than teacher-centered approaches (AlAmri et al., 2021). By recognizing the strengths of both face-to-face and online learning activities, a variety of benefits can be achieved. For instance, both Owston et al. (2013) and AlAmri et al. (2021) stated that BL would enable students to have control over pace, path, time, and place, hence granting them the opportunity to customize their learning experience and meet their diverse needs flexibly. In addition, such a method would provide both learners and teachers with a variety of resources, means, and mediums that they could utilize to enrich the educational process, including videos, podcasts, online materials, and presentations. Moreover, the fact that some classes can be virtual would allow the lecturers to create the teaching material and record their sessions, and then, by making them available online, they can be used several times by students in different classes. The high accessibility to courses and material anytime from anywhere can also be added to the benefits of BL. In addition, it facilitates the overall student assessment by providing the features of conducting comprehensive and efficient online exams and online discussions, with a built-in and well-defined rubric for automated grading and very detailed reports. This, in turn, is considered a huge relief for teachers when the effort and time needed are reduced. Also, it benefits the students as they can track their progress and get on-spot feedback. On the other hand, the BL method entails some disadvantages. The huge dependency on technology is considered one of the biggest challenges due to various reasons; first of all, some people, especially in poor areas, might not have the needed information and communications technology tools, such as computers and cell phones, and secondly, delivering and receiving online content needs a reliable internet connection, which in many cases might not exist. The BL model causes some teachers to overdo things and, accordingly, creates some cognitive load that hurts the students. Moreover, being set in informal circumstances and lacking direct supervision, students might fall behind. Virtual space has presented several challenges, including miscommunication between teachers and students since there are no in-person interactions or body language signals. The lack of knowledge and understanding of how to use basic digital means could be a major barrier or challenge for some teachers, as some lack fundamental information technology (IT) literacy. Last but not least, enrolling in schools and colleges that adopt the BL approach might be pricey for some students, as the tuition fees might be high due to the costs spent on the staff and other IT support and logistics costs. Many studies have examined BL's effectiveness and impact across various educational settings in recent years. There is evidence that this method is beneficial based on prior research. Researchers have found that BL environments, like Smith and Hill (2019) and Hrastinski (2021), allow students to interact with each other face-to-face as well as access online resources to create deeper learning experiences that accommodate their diverse learning styles and preferences (Hrastinski, 2021; Smith & Hill, 2019). The findings by Johnson et al. (2020) support the notion that BL settings are superior to traditional classrooms regarding learner motivation and retention. These studies collectively underscore the flexibility of BL in adapting to the evolving educational landscape and its potential to optimize educational outcomes by effectively integrating digital and traditional instructional methods (Yu et al., 2025). Several recent critiques suggest that BL should not be widely adopted after COVID-19, which advocated the return to face-to-face instruction. The results of studies by Halverson and Graham (2019) and Harper et al. (2024) show that face-to-face learning is more effective and satisfying for students than BL. These studies emphasize the importance of direct interaction between students and instructors in facilitating deeper understanding and engagement (Halverson & Graham, 2019; Harper et al., 2024). Studies such as those by Czerniewicz et al. (2019) suggest that BL models may exacerbate issues such as the digital divide and equity, leaving students who lack access to technology and reliable internet connections disadvantaged. In a recent article, Yu et al. (2025) extolled the virtues of BL but cautioned against using it universally and emphasized the significance of direct instruction in higher education.

Aim of the Study

In the wake of the COVID-19 epidemic, the study aimed to investigate undergraduate students' perspectives on the use of BL in higher education at Ajman University in the United Arab Emirates (UAE).

Study Questions

Research questions (RQs) in the current study were formulated as follows:

RQ1: How satisfied are students at Ajman University with BL in the wake of the COVID-19 pandemic?

RQ2: Do Ajman University students' satisfaction levels with BL alter according to their gender, college, and academic year after the COVID-19 pandemic?

Significance of the Study

1. Trying to understand how undergraduate students received the BL model after distance learning during the pandemic, which reveals its suitability to their educational needs.
2. It can provide practical evidence on the effectiveness of BL to guide improvements in educational policies and support the use of technology in education.
3. It may enhance interaction between undergraduate students and teachers and stimulate effective participation in educational processes.
4. Students' academic, social, and psychological characteristics can be comprehensively analyzed from this perspective, enhancing a deeper understanding of the educational model's impact.

METHODOLOGY

Approach of the Study

A descriptive technique approach was used in this investigation, which is an approach that collects quantitative data that can be analyzed statistically to describe understudied populations, conditions, or phenomena (Shields et al., 2013). According to Nassaji (2015), the primary objective of descriptive research is to analyze phenomena and their specific characteristics. Gall et al. (2007) emphasize what happened, not why or how. Data was collected from the population using a questionnaire.

Study Population

As shown in **Figure 1**, the research sample included 5600 male and female students enrolled in the second semester of the academic year 2022/2023 from all Ajman University colleges.

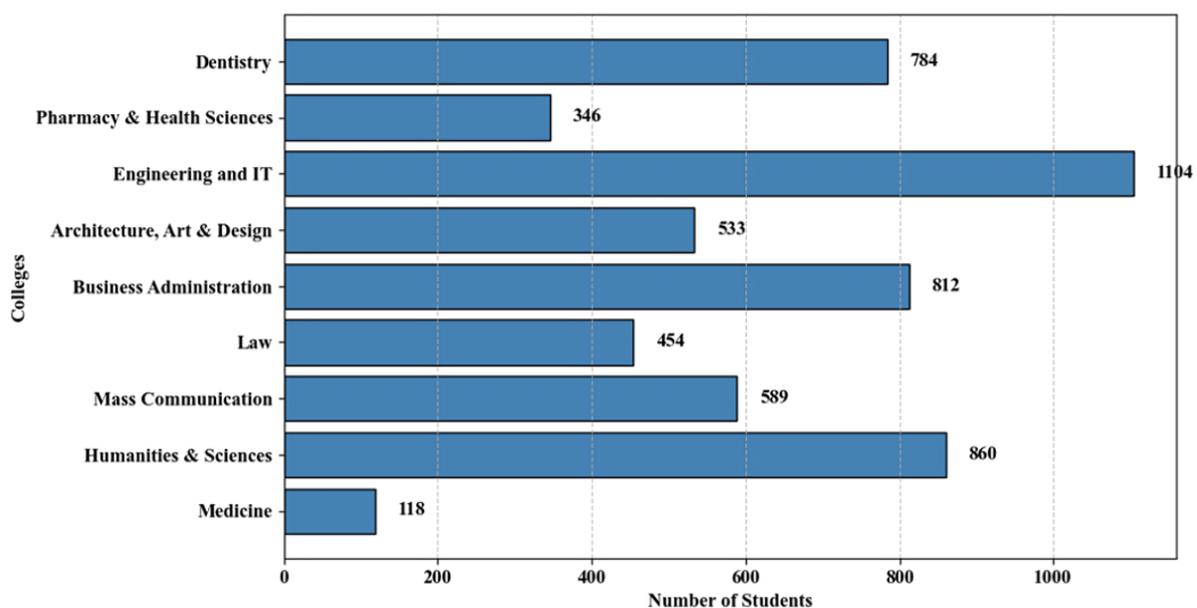


Figure 1. Distribution of students across different colleges (Source: Authors' own data, Ajman University, academic year 2022/2023)

Sample

The investigators employed a technique known as stratified random sampling to obtain an ensemble of 25% of each college's students, for a total of 1,400 students ($5,600 * 25/100$). For example, the calculated students from the business school are $812 * 25/100 = 203$, which is $203 / 1,400 * 100 = 14.5\%$. The same procedure is followed for the remaining departments in **Figure 2** and **Table 1**.

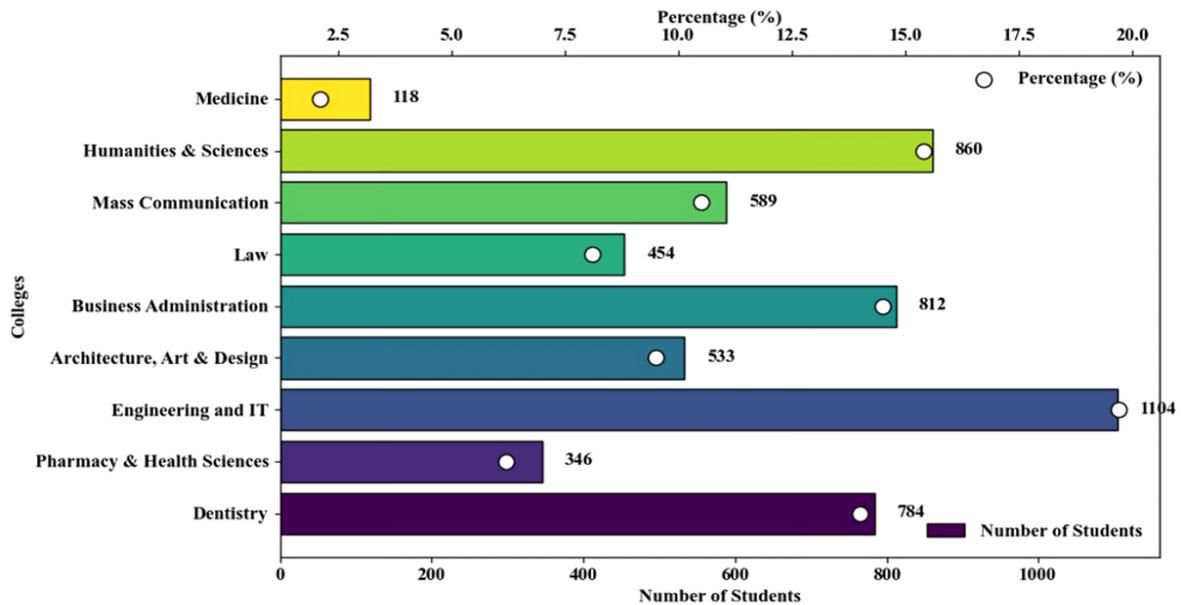


Figure 2. Study samples (Source: Authors' own data, Ajman University, academic year 2022/2023)

Table 1. Demographic information for students (n = 1,400)

Variables	Levels	Frequency (N)	Percentage (%)
Gender	Female	715	51.07
	Male	685	48.93
College	Dentistry	134	9.57
	Pharmacy & health sciences	89	6.36
	Engineering and IT	198	14.14
	Design, art, and architecture	133	9.50
	Business administration	264	18.86
	Law	156	11.14
	Mass communication	144	10.29
	Humanities and sciences	241	17.21
	Medicine	41	2.93
Academic year	First	392	28.00
	Second	331	23.64
	Third	269	19.21
	Fourth	220	15.71
	Fifth	132	9.43
	Sixth	56	4.00

Study Tool

Data was collected from the sample students by administering the survey. It was distributed in the two semesters following the COVID-19 pandemic in 2022/2023. This questionnaire was developed using prior research in the field, including the study by Smith and Hill (2019). During the study, the survey consisted of general student information and 30 items related to the study's purposes.

Validity and reliability

The questionnaire items were evaluated by 11 arbitrators, all university members with extensive experience in education. They assessed them based on their suitability for achieving the research objectives,

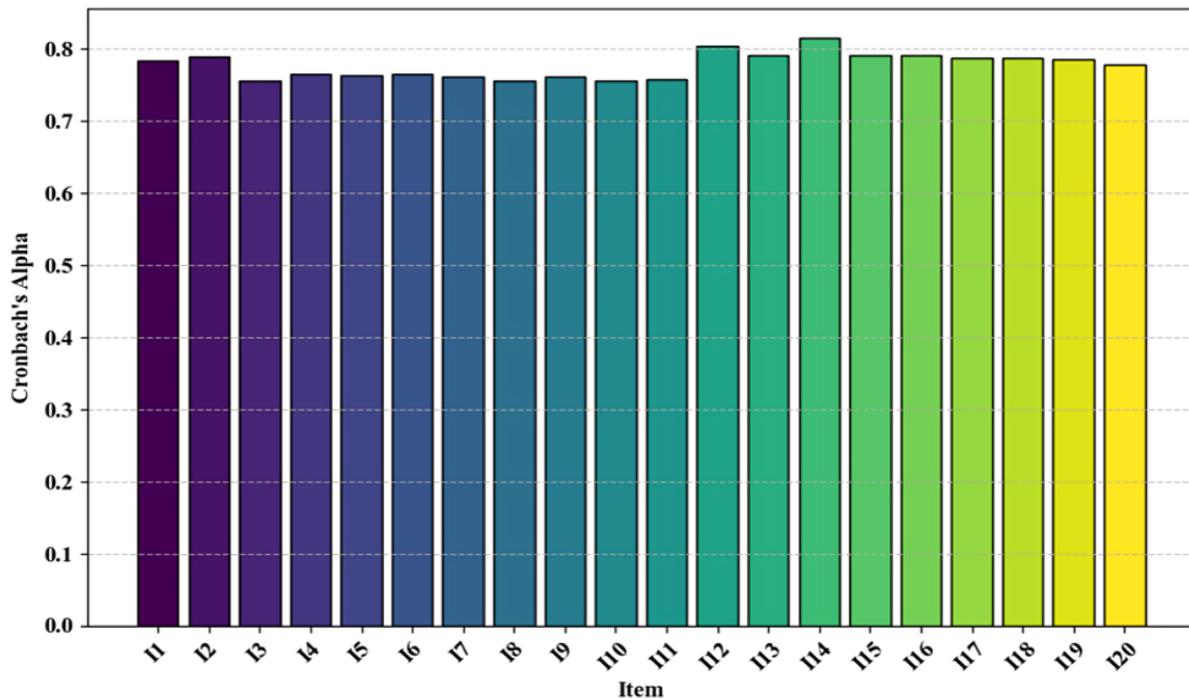


Figure 3. Cronbach's alpha of the questionnaire items based on pilot study results (Source: Authors' own data)

quantity, and comprehensiveness. The comments of educational specialists and the proposed amendments were reviewed, and the necessary amendments were made, including deletion, modification, and addition. As a result, the questionnaire, after modification, consisted of 20 items to achieve the research goal. When used to a pilot study including 35 students who were not part of the research sample, the Cronbach's alpha equation was utilized to confirm the internal consistency of the study tool. The computed Cronbach's alpha coefficient was 0.772, as shown in [Figure 3](#). Furthermore, a fair level of utilization is shown by the Cronbach's alpha reliability value 0.832.

Data Analysis

To calculate percentages, means (M), standard deviations (SD), independent t-tests, one-way ANOVA, and the Scheffé test, the researchers used the statistical package for the social sciences.

RESULTS

Results of the Investigation About RQ1. What Is the Degree of Satisfaction of Students With BL After COVID-19's Spread at Ajman University?

For the first question of this research, we computed the SD and M of the participants' responses to every one of the questions 1 to 20 (enrollment in electronic tests by pupils during the COVID-19 epidemic) ([Table 2](#)). Based on data in [Table 2](#), the average M score for all items (1-20) was 3.53 (SD = 0.857), indicating that students at Ajman University are satisfied with the BL model. Even with the challenges posed by the pandemic, students seemed to appreciate the flexibility and resources the BL model provided.

[Table 2](#) also indicates that the student's responses to Q19 ("I believe blended learning reduces the real interaction between the teacher and the students") had the highest mean value (M = 4.88, SD = 0.415), which indicates a significant level of concern about the decrease in actual interaction. As a result, students appear satisfied with many aspects of BL. However, they remain concerned about the lack of face-to-face interaction. In Q1 ("Blended learning has improved my understanding of academic material"), the mean value (M = 4.31, SD = 0.738) was very high, indicating that students felt that BL significantly impacted their understanding of academic material. Combining online and in-person components can provide practical learning experience for students. According to Q4 ("Blended learning improves my motivation to participate actively in educational

Table 2. Summary statistics for the questionnaire items that the students answered

No	Paragraphs	M	SD	Description
Q1	Blended learning has improved my understanding of academic material.	4.31	0.738	Very high
Q2	The blended learning model enhances my engagement and interaction in lessons.	3.48	0.605	High
Q3	The communication techniques used in blended learning were effective and appropriate.	3.72	1.184	High
Q4	Blended learning improves my motivation to participate actively in educational processes.	4.17	0.745	High
Q5	I see a need for improving and developing current blended learning models.	2.73	1.339	Moderate
Q6	I recommend the blended learning model to my fellow students as a preferred educational option.	4.06	0.727	High
Q7	My experience with blended learning after the COVID-19 pandemic has been generally positive.	3.61	0.681	High
Q8	I am seeing an improvement in my academics thanks to using the blended learning model.	3.95	0.804	High
Q9	Blended learning contributes to developing my technical skills.	3.03	0.801	Moderate
Q10	Ineffective communication is a challenge caused by the blended learning model.	1.82	0.791	Low
Q11	I do not prefer using the blended learning model over traditional lessons because of its ineffectiveness.	1.96	0.844	Low
Q12	I feel comfortable and at ease while using blended learning.	3.99	0.762	High
Q13	I enjoy the academic experience after the COVID-19 pandemic.	4.04	0.768	High
Q14	I face some challenges while using the blended learning model.	3.33	1.678	Moderate
Q15	I am motivated enough to participate in discussions and activities in the blended learning model.	3.66	0.909	High
Q16	There isn't a pressing need to improve the student experience with the blended learning model.	1.89	0.995	Low
Q17	I believe that the blended learning model has contributed to developing my skills.	3.87	0.522	High
Q18	I am willing to participate in other educational courses using the blended learning model.	3.81	0.860	High
Q19	I believe blended learning reduces the real interaction between the teacher and the students.	4.78	0.415	Very high
Q20	I believe there is a need to train instructors to use blended learning techniques.	3.99	0.817	High
Total		3.53	0.857	High

processes”), students were more satisfied with their education when the blended model was used. The mean value of 4.17 (SD = 0.745) indicated that students were motivated to participate actively in their education when it was used. This high level of engagement is essential to maintain student interest and participation. Moreover, Q6 (“I recommend the BL model to my fellow students as a preferred educational option”) had a high mean value of 4.06 (SD = 0.727), indicating that students strongly endorse BL as an educational option.

Additionally, students’ overall experience with BL was very positive, as shown in Q13 (“I enjoy the academic experience after the COVID-19 pandemic”), which received a mean score of 4.04 (SD = 0.768). As a result of the BL model, students faced significant communication challenges, as evidenced by the lowest mean score (1.82, SD = 0.791) for Q10 (“Ineffective communication is a challenge caused by the blended learning model”). As a result of this issue, a critical area where BL needs to be improved is highlighted. There was moderate agreement for Q5 (‘I see a need for improving and developing current blended learning models’) with a mean of 2.73 and for Q14 (“I face some challenges while using the blended learning model”) with a mean value of 3.33. Even though the BL model is generally effective, there are areas in which further development and support are needed to overcome existing difficulties. On the other hand, item Q16 (“I believe there is no need to improve the blended learning model”) came with the most miniature mean score of 1.89 (SD = 0.995). This indicates that many students need to improve the BL model. Similarly, Q11 (“I do not prefer using the blended learning model over traditional lessons because of its ineffectiveness”) came with a low mean score of 1.96 (SD = 0.844). The BL model at Ajman University was generally regarded as a positive experience by students, particularly regarding understanding academic material and motivation. However, substantial challenges, particularly regarding communication and enhancements, must be addressed for BL to be effective.

Results of the Investigation About RQ2. Are Students at Ajman University More Pleased With BL After the Spread of COVID-19 Than Students Were Academic, College, and Gender Year Different?

Scheffé’s post-hoc comparative tests, one-way ANOVA, and t-tests were utilized in the statistical analyses to identify significant differences among the average scores. The conclusions drawn from the participants’ responses vary depending on the study variables.

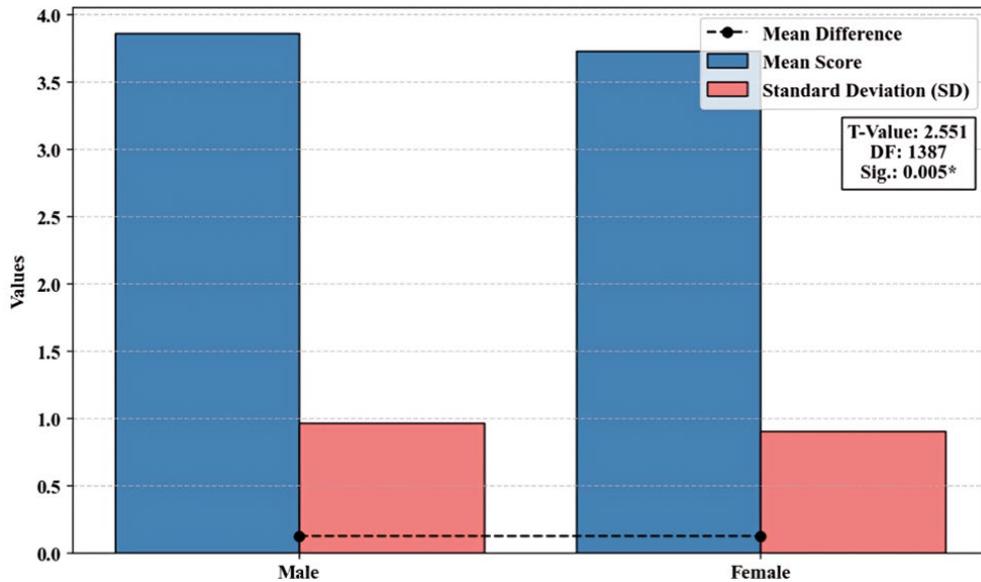


Figure 4. M & SD of gender (Source: Authors' own data)

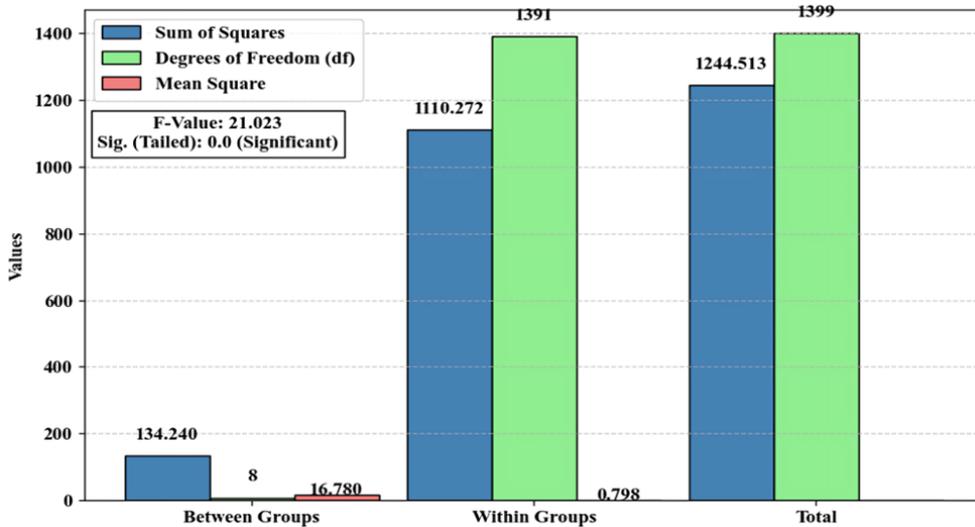


Figure 5. One-way ANOVA test college variable (Source: Authors' own data)

First. Student gender variations

The typical satisfaction of students with BL following COVID-19 was analyzed with a t-test to determine if the gender difference was statistically significant (Figure 4).

The results show that female students are substantially less satisfied than male students, as seen in Figure 4. There was a 0.12885 difference between the satisfaction scores for males and females (3.76 vs 3.73). It is statistically significant at the 0.05 level due to the t-value of 2.051 and p value of 0.005. The BL experience is more popular with female students than male students, according to student assessments post-COVID-19.

Second. Students' college variable

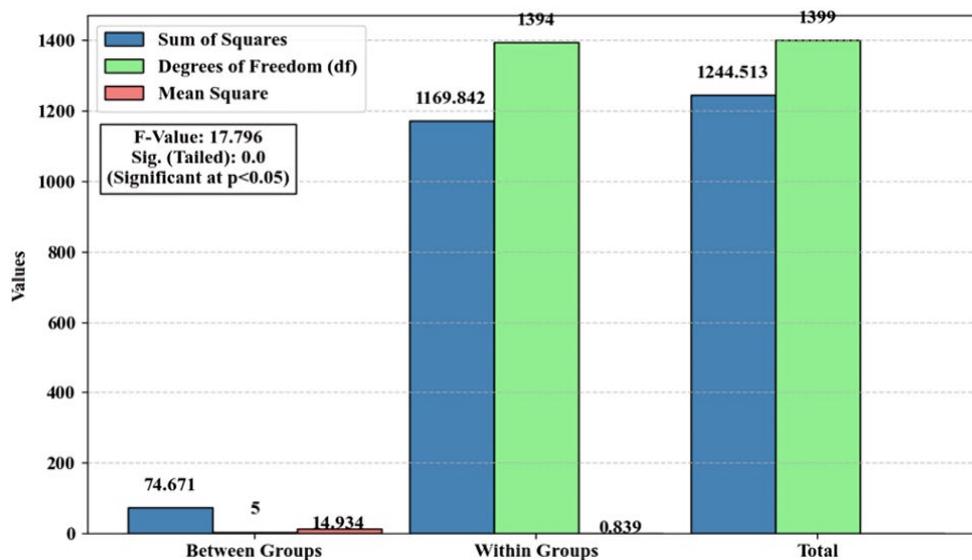
A one-way ANOVA test was performed to assess if COVID-19 had an impact on BL usage at Ajman University (Figure 5). We discovered statistically significant differences among student viewpoints throughout college variables with a one-way ANOVA test. Take note the F value was 21.023 and the p value was 0.000, below the amount of statistical significance needed (0.05). College attitudes toward BL vary, he said. Consequently, to identify the cause of the discrepancies, we used the Scheffé test (see Table 3). The Scheffé test yields result for the comparisons that follow.

Table 3. Scheffé test findings based on college variable

(I) The college	(J) The college	MD (I-J)	Significance
Dentistry	Pharmacy & health science	-0.46543	0.070
	Engineering and IT	0.12658	0.991
	Design, art, and architecture	-0.66068*	0.000
	Business administration	0.07507	1.000
	Law	0.00354	1.000
	Mass communication	0.32920	0.309
	Humanities and sciences	0.15724	0.953
	Medicine	0.87906*	0.000
Pharmacy & health science	Dentistry	0.46543	0.070
	Engineering and IT	0.59202*	0.001
	Design, art, and architecture	-0.19525	0.959
	Business administration	0.54050*	0.002
	Law	0.46897*	0.049
	Mass communication	0.79464*	0.000
	Humanities and sciences	0.62268*	0.000
	Medicine	1.34449*	0.000
Engineering and IT	Dentistry	-0.12658	0.991
	Pharmacy & health science	-0.59202*	0.001
	Design, art, and architecture	-0.78726*	0.000
	Business administration	-0.05152	1.000
	Law	-0.12305	0.990
	Mass communication	0.20262	0.830
	Humanities and sciences	0.03066	1.000
	Medicine	0.75248*	0.002
Design, art, and architecture	Dentistry	0.66068*	0.000
	Pharmacy & health science	0.19525	0.959
	Engineering and IT	0.78726*	0.000
	Business administration	0.73575*	0.000
	Law	0.66422*	0.000
	Mass communication	0.98988*	0.000
	Humanities and sciences	0.81792*	0.000
	Medicine	1.53974*	0.000
Business administration	Dentistry	-0.07507	1.000
	Pharmacy & health science	-0.54050*	0.002
	Engineering and IT	0.05152	1.000
	Design, art, and architecture	-0.73575*	0.000
	Law	-0.07153	1.000
	Mass communication	0.25414	0.480
	Humanities and sciences	0.08218	0.998
	Medicine	0.80399*	0.000
Law	Dentistry	-0.00354	1.000
	Pharmacy & health science	-0.46897*	0.049
	Engineering and IT	0.12305	0.990
	Design, art, and architecture	-0.66422*	0.000
	Business administration	0.07153	1.000
	Mass communication	0.32567	0.270
	Humanities and sciences	0.15371	0.946
	Medicine	0.87552*	0.000
Mass communication	Dentistry	-0.32920	0.309
	Pharmacy & health science	-0.79464*	0.000
	Engineering and IT	-0.20262	0.830
	Design, art, and architecture	-0.98988*	0.000
	Business administration	-0.25414	0.480
	Law	-0.32567	0.270
	Humanities and sciences	-0.17196	0.911
	Medicine	0.54986	0.148
Humanities and sciences	Dentistry	-0.15724	0.953
	Pharmacy & health science	-0.62268*	0.000
	Engineering and IT	-0.03066	1.000
	Design, art, and architecture	-0.81792*	0.000
	Business administration	-0.08218	0.998

Table 3 (Continued).

(I) The college	(J) The college	MD (I-J)	Significance
	Law	-0.15371	0.946
	Mass communication	0.17196	0.911
	Medicine	0.72181*	0.004
College of medicine	Dentistry	-0.87906*	0.000
	Pharmacy & health science	-1.34449*	0.000
	Engineering and IT	-0.75248*	0.002
	Design, art, and architecture	-1.53974*	0.000
	Business administration	-0.80399*	0.000
	Law	-0.87552*	0.000
	Mass communication	-0.54986	0.148
	Humanities and sciences	-0.72181*	0.004

**Figure 6.** Students' academic year variable one-way ANOVA test (Source: Authors' own data)

According to **Table 3**, students in the college of medicine are significantly more satisfied with the education they receive than students in other colleges, including dentistry, pharmacy, engineering, and IT. On the other hand, it is apparent that the college of architecture, art, and design performs significantly worse than most colleges due to problems associated with implementing BL. According to the data, student satisfaction might differ by college due to factors such as coursework, access to resources, and instructional methods.

Third. Academic year variable

We assessed if differences in averages between students at Ajman University referring to BL following COVID-19 spread were significant using one way ANOVA. According to one-way ANOVA results, students' perspectives were statistically significant determined by the academic year varied (F value 17.934; p value 0.000; SS less than statistical significance level (0.05)). From these results, various colleges seem to view BL differently. Consequently, the Scheffé test (**Figure 6**), which yields the Scheffé test findings for the subsequent comparisons, was used to identify the cause of the discrepancies.

As shown in **Table 4**, students' satisfaction levels with BL at Ajman University differ significantly across academic years based on the Scheffé test results. A significant difference exists between sixth-year students' satisfaction levels and all other study years. In addition to first-, second-, and third-year students, fourth-year students express high satisfaction with their education. Students' satisfaction is notably lower in their first and second years but significantly higher in their fourth and sixth years. There is a lower satisfaction level among third-year students compared to sixth-year students and a lower satisfaction level among fifth-year students than fourth-year students. For seniors, especially those in their last year, BL seems more satisfying once COVID-19 is over.

Table 4. Scheffé test outcomes by academic year variable

(I) Academic year	(J) Academic year	MD (I-J)	Significance
First	Second	0.04044	0.997
	Third	0.23886	0.055
	Fourth	0.51490*	0.000
	Fifth	0.14490	0.781
	Sixth	-0.59707*	0.001
Second	First	-0.04044	0.997
	Third	0.19842	0.224
	Fourth	0.47446*	0.000
	Fifth	0.10446	0.942
Third	Sixth	-0.63751*	0.000
	First	-0.23886	0.055
	Second	-0.19842	0.224
	Fourth	0.27604	0.052
	Fifth	-0.09396	0.968
Fourth	Sixth	-0.83592*	0.000
	First	-0.51490*	0.000
	Second	-0.47446*	0.000
	Third	-0.27604	0.052
	Fifth	-0.37000*	0.020
Fifth	Sixth	-1.11196*	0.000
	First	-0.14490	0.781
	Second	-0.10446	0.942
	Third	0.09396	0.968
	Fourth	0.37000*	0.020
Sixth	Sixth	-0.74196*	0.000
	First	0.59707*	0.001
	Second	0.63751*	0.000
	Third	0.83592*	0.000
	Fourth	1.11196*	0.000
	Fifth	0.74196*	0.000

Note. *The mean difference is significant at the 0.05 level

DISCUSSION

In general, research reveals that students at Ajman University have adapted well to BL after the COVID-19 outbreak. According to the survey, students reported favorable perceptions regarding several aspects of BL, which averaged 3.53 across all items (1-20). BL has several strengths, including an improved understanding of academic concepts, increased engagement, and improved communication. Although the data indicates areas to improve, such as addressing the challenges students face and continually improving the BL experience to meet student expectations, the data also indicate areas for improvement. The results demonstrate that BL can be a viable educational option post-COVID-19, emphasizing the ongoing evolution necessary to optimize its implementation and effectiveness. Further, **Table 4** shows how, from the start of the COVID-19 epidemic, Ajman University students' happiness with BL has changed. Students perceive themselves as getting better at academic understanding and engagement but face challenges and areas needing improvement. On the bright side, students reported high satisfaction with BL as it helped them understand academic content (Q1, M = 4.31) and increased their motivation to participate actively in educational processes (Q4, M = 4.17). According to Dziuban et al. (2018), BL can positively impact learning outcomes and engagement and effectively enhance students' understanding of academic content through personalized and interactive learning experiences. Furthermore, a positive perception of communication techniques in BL (Q3, M = 3.72) is consistent with a study conducted by Hrastinski (2009), which posits that effective communication strategies in BL environments, characterized by clear and engaging interactions, contribute significantly to enhancing student engagement, satisfaction, and overall learning outcomes. Keeping students satisfied and facilitating meaningful interactions within and outside the classroom depends on effective communication strategies. Nonetheless, there are also concerns and divergences found in the findings. Students generally reported having a positive experience with BL (Q7, M = 3.61), but some reported facing challenges (Q14, M = 3.33). A similar finding was made by Smith & Hill (2019), who identified various

challenges, including technological issues and perceived lack of support, that negatively impacted the student experience. Furthermore, students' perspectives regarding the preference for BL over traditional methods differed (Q11, $M = 1.96$). Contrary to this, Hrastinski (2021) finds that blended approaches are increasingly becoming accepted and preferred because of their flexibility and accessibility. Additionally, despite acknowledging the need to develop and improve BL models (Q5, $M = 2.73$), many students believed the current models were sufficiently effective (Q16, $M = 1.89$). It underscores the need for educational delivery methods to be continuously adapted and enhanced to meet students' different expectations and priorities. Overall, the findings from Ajman University highlight both positive and problematic aspects of BL after COVID-19. It is consistent with existing research that BL can lead to enhanced engagement and learning outcomes, but it also identifies challenges that must be addressed. A targeted approach to instructional design, technology support, and student engagement strategies will be crucial for optimizing BL environments and ensuring equitable access to quality education in the future. An expanded discussion of the study highlights its positive and negative aspects, contributing to a deeper understanding of students' perceptions and pointing to future research and improvement opportunities. Several studies have contributed to the findings of this study, including (Ahmed, 2023; Alsalhi et al., 2019; Bernard et al., 2009; Garrison & Kanuka, 2004; Hew & Cheung, 2014; Lalima & Dangwal, 2017; Mabuan & Ebron, 2017; Means et al., 2013; Owston et al., 2013; Picciano, 2009; Dziuban et al., 2018). According to the findings of these studies, BL, integrating online and face-to-face instruction, is transforming higher education. Research shows that BL promotes active engagement, improves memory retention, and fosters critical thinking at all levels of the education process. With BL models, students can achieve individualized learning experiences and have effective interactions, which are essential for their success. BL has been demonstrated to be a versatile educational strategy despite challenges, including technological integration and varying learner motivations. It can be tailored to meet the needs of diverse students, optimize the learning environment in traditional settings, and respond to global challenges like the COVID-19 epidemic. According to the study, tailored BL may be more attractive to male students, students from different colleges, and students from different academic years after COVID-19 at Ajman University. Results revealed significant differences between variables in satisfaction levels. The average difference between satisfaction levels reported by males and females was statistically significant. This study's findings correspond to previous research findings indicating gender differences in technology adoption and satisfaction (Al-Fraihat et al., 2020; Thacker et al., 2022; Wiesenbergs & Stacey, 2005). According to Johnson et al. (2020), no significant gender differences were reported in online learning satisfaction. Among the colleges that compared to student satisfaction, the college of medicine had significantly higher satisfaction than the dentistry, pharmacy, health science, and engineering, and IT colleges. In contrast, the college of architecture, art, and design had significantly lower satisfaction. This college does not have a good track record for implementing BL. Several studies reported similar trends, indicating that medical students were more satisfied with BL thanks to its practical nature and the better integration of online and face-to-face components (Mahdy, 2020). On the other hand, engineering and architecture students are often challenged by online components that require hands-on practice and design (Aguilera-Hermida, 2020; Samsonova, 2020). A significant difference was also found between academic years, with sixth-year students demonstrating the highest level of satisfaction. The satisfaction rate among fourth-year students was also high, while it was lower among first-, second- and third-year students. The results indicate senior students are more satisfied with BL, especially in their final year. This may be because they are more flexible and have more experience with BL. Depending on what studies are showing, upper-year students tend to be more satisfied with BL because they have a better understanding of academic demands and better time management skills (Gopal et al., 2021). According to Means et al. (2014), both older and younger students can benefit from BL. As a result, the study contributes to ongoing debates about factors influencing blended student satisfaction. As a result, BL programs should consider gender, discipline, and academic year during the design and implementation process to maximize student satisfaction and learning outcomes.

CONCLUSIONS

As a result of the COVID-19 pandemic, there is a noticeable impact on educational institutions, including higher education (university) and pre-university education, which is why it has continued to be widely adopted by all countries capable of running it in their educational institutions. Combining traditional learning with

online learning, BL enables students to learn independently while under the supervision of their teachers. The goal is to allow students to manage academic and personal responsibilities more effectively through more flexible and accessible content, activities, and assessments. In other words, students will be able to manage academic and personal responsibilities better with greater flexibility and accessibility to course content, activities, and assessments (Al Balushi et al., 2022; Cobo-Rendón et al., 2022; Gazi et al., 2023; Sobaih et al., 2022). Moreover, a fundamental matter needs to be addressed, and solutions found, namely student access to technology, information, and the Internet, as well as access to the e-learning resources they need to learn effectively (Raza et al., 2022). On the other hand, here in the UAE, the Ministry of Education is working to implement an integrated strategic development plan that will focus great attention and attention on technical support operations and provide solutions to the problems that may result from the application of BL in its educational institutions, whether higher education or pre-school. Collectors' research ensures that students' learning sustainability is correct according to the latest educational methods and strategies linked to and integrated with modern technology (Ahmad, 2023; Mohammed, 2017).

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